

EARTH'S TIME

GRADE LEVEL: 4 - 8

OBJECTIVE:

Students will be able to explain the progression of events and natural and cultural history over time that produced the fossils and the Falls of the Ohio.

MATERIALS:

Large sheets of paper six feet in length
Historical biography of the Falls
Crayons and pencils

PROCEDURE:

1. Draw a center line along the length of the paper. Divide the line into three sections representing the three eras, Paleozoic, Mesozoic and Cenozoic. The Paleozoic era should be the largest, at least half of the paper.
2. Divide eras into periods. (See chart on next page.) Start with the end of the Precambrian, which was the largest, about seven times longer than all the other periods put together. The following list has the names and millions of years that they span.
3. Indicate the important creatures or developments found in each period.
4. Make special note of the time of the formation of the fossil beds and the creatures that were living then. (Devonian Period 408 to 360 million years ago during the Paleozoic era.)

EXTENSIONS/EVALUATIONS:

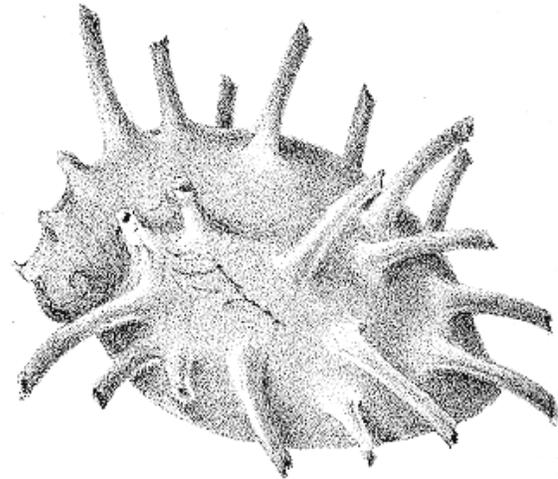
5. Have students create a time line for their life span, eighty or ninety years. Have them mark special eras, babyhood, childhood, teenage, adulthood, old age. Have students determine which era are the longest? Shortest? Ask students what important things have happened to them and what they expect will happen in their

lifetime personally, locally, and globally? How does their life span compare to the earth's life span?

6. How can you manage your life and insure your healthy quality of life? How can you insure the survival of the earth and its health? Design a plan of action for both cases.

7. Do the matching test activity that is with this lesson. The information can be found in the exhibits at the Falls Center.

Answers to *Falls Time Line* activity on page 12: 1, 6, 4, 3, 11, 9, 2, 12, 5, 7, 10, and 8.



Platyceras dumosum – a spiny snail



Triceratops – a “spiny” Cretaceous dinosaur

Geologic Time

<i>Era</i>	Period	Began (years ago)	What happened?
Precambrian		4.6 billion	Origin of Earth
	Archean Eon	3.8 billion	First bacteria
	Proterozoic Eon	2.5 billion	One celled organisms
	Vendian "Period"	700 million	Multicellular organisms
	<i>Paleozoic</i> "Early Life"		
	Cambrian	570 million	Sudden abundance of shelly life
	Ordovician	505 million	Rise of corals, jawless fish
	Silurian	438 million	Earliest land plants and animals
	Devonian	408 million	First amphibians & forests
	Mississippian	360 million	Abundant crinoids, coal forests
	Pennsylvanian	320 million	First reptiles, abundant insects
	Permian	286 million	Largest extinction recorded
<i>Mesozoic</i> "Middle Life"			Rise of the Dinosaurs
	Triassic	248 million	First dinosaurs & mammals
	Jurassic	213 million	First birds
	Cretaceous	144 million	First flowering plants, extinction of dinosaurs, ammonites, etc.
<i>Cenozoic</i> "Recent Life"			Rise of Mammals
	<u>Epochs</u>		
	Tertiary		Mammals diversify
	<u>Paleocene</u>	66 million	
	<u>Eocene</u>	55 million	
	<u>Oligocene</u>	38 million	
	<u>Miocene</u>	25 million	
	<u>Pliocene</u>	5 million	
	Quaternary		Humans appear
	<u>Pleistocene</u>	2 million	Ice Age
	<u>Holocene</u>	10 thousand	Spread of <i>Homo sapiens</i>